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**FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY**

September 9, 1994

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W. Room 222
Washington, D.C. 20554

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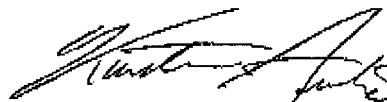
RE: Implementation of Section 309(j) of the Communications Act
Competitive Bidding, *Fifth Report and Order*.

Ladies and Gentlemen:

Please find enclosed, on behalf of MasTec, Inc, an original and four copies of a Response on Petitions for Reconsideration of Fifth Report and Order.

If there are any questions concerning this matter, please contact the undersigned.

Sincerely yours,



Karsten Amlie
Counsel for
MasTec, Inc.

Enclosures

RECEIVED**SEP - 9 1994**

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.**

**FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY**

In the Matter of

Implementation of Section 309(j)
of the Communications Act-
Competitive Bidding

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PP Docket No. 93-253

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To: The Commission

Response on Petitions for Reconsideration of Fifth Report and Order

1. Pursuant to FCC Rule §1.1427, MasTec, Inc. submits a consolidated Response to the Petitions for Reconsideration of the FCC's Fifth Report and Order, PP Docket No. 93-253, FCC 99-178, released July 15, 1994.

I. THE LIMITATION OF \$125 MILLION IN GROSS REVENUE HAS NO RECORD OR RATIONALE BASIS AND MUST BE RAISED TO \$225 MILLION.

2. The Fifth Report and Order established a net asset /net revenue eligibility test for the entrepreneur blocks.¹ The \$125 million annual gross revenue/\$500 million asset caps were apparently based loosely upon the Commission's local exchange carrier categories.² The stated purpose of these caps was to exclude larger companies which could outbid the designated entities.³ Unfortunately, the caps have the perverse effect of eliminating designated entities who have the best chance of

¹ FCC Rule § 24.709(1).

² See Fifth Report and Order, para. 123, footnote 99.

³ "We agree that small entities stand little chance of acquiring licenses in these broadband auctions if required to bid against large companies particularly large telephone, cellular and cable television companies." Fifth Report and Order, para. 121.

competing in the PCS environment. In addition, as noted by the Telephone Electronics Corporation, there is no relationship in the record as to how the specific caps relate to PCS.

3. While it is true that the \$125 million gross revenue cap is roughly similar to Tier 2 carriers, only a slightly more sophisticated analysis demonstrates that the relationship of the \$125 million cap and the \$500 million cap is dramatically at odds with the existing financial characteristics of local exchange carriers. As noted in an *Analysis of the FCC's Fifth Report and Order* in Exhibit 1 hereto, when one compares the average operating revenues, average total assets, and average ratio of operating revenues to assets for the top 150 local exchange carriers, the average operating revenue as a percentage of total assets is 45 percent. In contrast, the FCC caps result in a revenue to asset ratio of only 25 percent. The significance of this deviation should be apparent. The more efficient a company is, the higher its earnings (gross revenue) will be compared to its asset base. Thus, compliance with the FCC financial caps will result in handicapping less efficient designated entities against more efficient competitors. Accordingly, the FCC should adjust the gross revenue cap to \$225 million (45 percent of \$500 million). By increasing the revenue cap the FCC will encourage designated entities that have financial foundations and efficient operations that are competitive with existing telecommunications companies that are expected to bid in the PCS auctions.⁴

4. Based on the Petitions and an *Analysis of the FCC's Fifth Report and Order*, MasTec withdraws its earlier stated position in its Petition of encouraging the FCC to adopt a maximum cap of \$500 million in gross revenues and urges the Commission to adopt a \$225 million cap in gross revenue.⁵

⁴ One might argue that the correct adjustment would be to lower the \$500 million cap. Although logically accurate, the need for changing the FCC limits is motivated by a need for access to more, not less, capital. See Exhibit 1, pp. 12-14.

II. THE FCC MUST CLARIFY ITS QUALIFIED PUBLICLY TRADED EXCEPTION TO EXTEND TO MINORITIES AND TO WOMEN.

5. Several commentators raise questions concerning the Qualified Publicly Traded Entrepreneurs.⁶ MasTec agrees the FCC needs to clarify its rules with respect to these publicly traded companies and how minority controlled publicly traded companies are effected.⁷

Specifically, MasTec urges the Commission to make the following changes:

A. The definition as included in Section 24.720(c) of Businesses Owned by Members of Minority Groups and/or Women should be modified to include a publicly traded company that is controlled by minorities and/or women (i.e., where minorities and/or women own and hold more than 50.1 percent of the voting interests of the company).

B. That where a publicly traded company which is controlled by minorities and/or women, as noted above, holds at least 50.1 percent of the voting stock, it is qualified to apply for the entrepreneur block assuming it meets the financial limitations set forth by the Commission.

C. That minority and/or women controlled publicly traded companies are qualified for bidding credits, installment payments and tax certificates on an equal basis with all other designated entities.⁸

6. Modification of the Minority-Owned "Entrepreneur" definition to recognize minority-

⁵ Similarly, in light of the proposed cap of only \$225 million, MasTec withdraws its suggestion to eliminate any bidding credits for those entities with gross revenues in excess of \$125 million. Further, MasTec supports other Petitioners who urge the FCC to adopt uniform bidding credits among designated entities.

⁶ NABOB, EATEL and BET.

⁷ MasTec is a publicly traded company which is controlled by Jorge Mas and his family. The Mas family owns approximately 65% of the voting stock of MasTec.

⁸ Section 163 and Footnote 141.

owned and controlled publicly-traded entities, (i.e., 50.1% voting stock) would be wholly consistent with Congress' directives, the Fifth Report and Order's findings and present FCC policy. Congress and the Commission have recognized that the most significant barrier for minority business in gaining access to the telecommunications industry is gaining access to capital. The Commission has recently acknowledged that in services with high entry costs, precluding publicly traded companies from receiving measures intended for minority-owned businesses may undermine the objective of ensuring opportunities for these designated entities.⁹ PCS will have the highest entry costs of any of the currently envisioned spectrum services, yet the Commission has narrowly defined minority-owned businesses in such a way as to prevent publicly traded minority-owned and controlled (i.e., 50.1% voting stock) businesses a meaningful opportunity to participate in PCS. Simply because a corporation is publicly traded does not mean that it has access to the enormous amount of capital necessary for PCS implementation and to compete against the large telecommunications companies who will operate competitive PCS systems. Accordingly, the definition of minority-owned businesses should be relaxed so that minority-owned and controlled (i.e., 50.1% voting stock) publicly traded companies are included.

III. THE COMMISSION MUST CLARIFY THE TIMING OF ITS PCS RULES.

7. A number of Petitioners object to the timing of the FCC rules.¹⁰ MasTec agrees that the rules are unclear when and how the \$125 million and \$500 million caps are to be applied. This

⁹ See Second Memorandum and Order, FCC 94-215 (released Aug. 15, 1994), paras. 130-131.

¹⁰ CTIA and Omnipoint.

has a particular concern to MasTec since it recently was involved in a reverse acquisition.

8. Specifically, prior to 1994, Church and Tower, Inc. and Church and Tower of Florida, Inc. were wholly owned and controlled by minorities. They had combined gross revenues less than \$40 million. No shareholder had a personal net worth in excess of \$100 million.

9. Prior to 1994, Burnup & Sims was a public company. Burnup & Sims was not a minority controlled entity. In 1993 and prior years, Burnup & Sims had gross revenues in excess of \$140 million and total assets ranging from \$110 million to \$150 million.

10. In late 1993, an agreement was entered into whereby the Church and Tower Group¹¹ was acquired through an exchange of stock with Burnup & Sims. Burnup & Sims issued shares of its common stock to Church and Tower Group's shareholders in exchange for all of the outstanding stock of the two Church and Tower companies. As a result of the exchange of stock, the former shareholders of Church and Tower Group received approximately 65% of the outstanding shares of Burnup & Sims. Thus, Church and Tower Group's shareholders became the majority shareholders of Burnup & Sims. Following the acquisition, the principals of Church and Tower Group became the Chairman of the Board and President of the renamed and restructured Burnup & Sims, now MasTec, Inc. Accordingly, MasTec, Inc. is now a minority owned and controlled business.¹²

11. In 1994, the restructured MasTec issued a Quarterly Report pursuant to the Securities Exchange Act of 1934 that reflected the transactions described above. Further, it reported gross revenues for the six months ending on June 30, 1994, of approximately \$54 million and total assets

¹¹ Church and Tower Group consisted of Church and Tower, Inc. and Church and Tower of Florida, Inc.

¹² See Demonstrative Chart, attached as Exhibit 2.

of approximately \$140 million.

12. From an SEC perspective¹³ and under generally accepted accounting principles¹⁴, this transaction is generally referred to as a "reverse acquisition." The "accounting acquirer" in a reverse acquisition is determined by identifying the former common shareholder interests of a combining company which either retain or receive the larger portion of the voting rights in the combined corporation. However, from a legal perspective, the "legal acquirer" generally continues in existence as the legal entity whose shares represent the outstanding stock of the combined company. Thus, in this transaction, while Burnup & Sims is considered the legal acquirer, the accounting acquirer is Church and Tower.¹⁵

13. Under general FCC rules and regulations, if Burnup were a licensee, the above-referenced acquisition would have required prior Commission consent for the transfer of control of the licensee.¹⁶ The FCC would consider the former shareholders of Church and Tower as controlling shareholders of the licensee.¹⁷

14. Pursuant to the existing PCS rules, eligibility for the Entrepreneur blocks relies upon

¹³ See Letter to Matthew Leibowitz from Carmen Sabater, attached as Exhibit 3.

¹⁴ Id.

¹⁵ A reverse acquisition allows an accounting acquirer to gain access to the public market without going through an initial public offering.

¹⁶ Due to the transfer of de jure and de facto control in this case, FCC authorization is required pursuant to 47 U.S.C. § 310(d). See Stephen F. Sewell, Assignments and Transfers of Control of FCC Authorizations Under Section 310(d) of the Communications Act of 1934, 43 Fed. Com. Law Journal 277.

¹⁷ Id.

an entity's annual gross revenues for the past two years.¹⁸ However, MasTec, Inc. as it is presently constituted, has not operated for two years. Unfortunately, the rules are unclear how this scenario is to be evaluated.

15. The Commission's ownership rules generally, and presently reflected in the instant PCS rules, focus upon principals controlling an applicant. In this instance, the control of Burnup & Sims presently resides with the persons who initially controlled Church and Tower. The principals previously controlling Burnup & Sims no longer govern the newly formed entity. Further, neither Church and Tower nor any of its principals had any relationship with the previous incarnation of Burnup & Sims prior to the reverse acquisition. Accordingly, consistent with SEC rules, GAAP and past Commission policy, the analysis the Commission should employ under its affiliate rules to evaluate the MasTec's eligibility should focus only on Church and Tower and its shareholders in years prior to 1994. The operating history of Burnup & Sims prior to 1994 should not be attributed to MasTec because the controlling principals had nothing to do with Burnup & Sims' revenues or operation prior to the acquisition. Therefore, the Commission should clarify its rules to allow for this type of transaction.

16. Further, a number of Petitioners raise questions concerning the 5 year holding provision¹⁹ adopted by the Commission.²⁰ Specifically, it would appear that a minority and/or a women's controlled entity would be penalized for its future success and growth either in PCS or in other business ventures if it exceeded the \$125 million and \$500 million caps during the 5 year period

¹⁸ Fifth Report and Order, para. 121.

¹⁹ FCC Rule § 24.839.

²⁰ Hernandez, BET, Omnipoint.

after it received its PCS license. MasTec agrees that this result is contrary to fostering meaningful minority and women participation. Thus, MasTec agrees that the financial test should be applied only as of September 23, 1993 for existing companies, as suggested by CTIA, and as of the application date for new non-operating entities and at the time a PCS permittee or licensee seeks approval for transfer of control during the five year period.

IV. THE FCC SHOULD NOT ALLOW A PCS HEADSTART TO PREJUDICE MINORITY AND WOMEN APPLICANTS.

17. Several commentators²¹ point out that the Commission's decision to auction off Blocks A and B first and only then auction the Entrepreneur Blocks several months later could result in several months headstart by successful A & B applicants. Obviously, any headstart will seriously damage the competitiveness of any applicant, especially designated entities. Thus, the FCC must minimize the time between the auctions to no more than 90 days²².

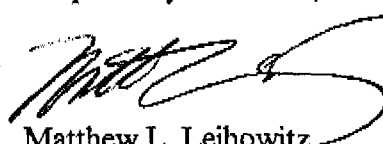
²¹ Pacific Telecom Cellular, SBPCS and Columbia PCS.

²² In addition, the Commission may want to consider requiring resale of PCS services provided on the A & B blocks for designated permittees on the C & F blocks.

V. MINORITY AND WOMEN SHOULD BE AFFORDED EQUAL TREATMENT WITH SMALL BUSINESSES TO ENTER INTO CONSORTIUM WITHOUT REGARD TO THE FINANCIAL CAPS FOR THE JOINT VENTURE.

18. As noted by NABOB, the Commission allowed small businesses to enter into consortiums without the gross revenues and total assets of each small business being aggregated.²³ In contrast, they did not provide equal treatment for the designated entities. MasTec concurs with NABOB that there is no basis for this disparate treatment among designated entities.

Respectfully submitted,



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September 9, 1994

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²³ Section 24.709(1)(3).

EXHIBIT 1

An Analysis the FCC's Fifth Report and Order

Implementation of Section 309(j) of the Communications Act - Competitive Bidding

prepared by

**Kenneth Clarkson and Raymond P. H. Fishe
University of Miami**

The rules that the FCC adopted to issue personal communications services (PCS) licenses on June 29, 1994 are driven by multiple goals. On the one hand, the FCC seeks to achieve an efficient allocation of licenses without undue concentration by placing them in the hands of bidders who will bring these services to the market at least cost and quickly. The multiple-round, simultaneous auction mechanism with its ownership, activity, and stopping rules is expected to promote economic efficiency. On the other hand, the FCC seeks to fulfill Congress's mandate that it promote economic opportunity for specific applicants; that is, small businesses, rural telephone companies, and businesses owned by members of minority groups and women. These applicants are referred to as designated entities. In its ruling, the FCC adopted several measures that attempt to meet the economic opportunity goals set by Congress. This report discusses some of these measures and suggests that minor changes are necessary to ensure that all designated entities are "given the opportunity to participate in the provision of spectrum-based services."¹

¹47 U.S.C. § 309(j)(4)(D).

PCS Technology and Cost

The PCS technology is similar to cellular technology in that an area is serviced by cell clusters. Calls are transferred between cells as users transit one area of coverage to another. The PCS technology is different, though, in that PCS networks will use digital signals and operate at a higher frequency than cellular networks. Thus, PCS handsets require less power, making them lighter, but the networks require many more cells to cover a given geographical area.

The benefits of a digital signal are that call clarity is significantly improved, network capacity is increased, and computer data transfer is more efficient. The low power requirements of PCS digital signals are expected to make these systems less expensive to users than cellular systems, and nearly competitive in price to wired phone systems. Many cellular networks, however, are converting to digital signals, so PCS networks will have fewer advantages over competing cellular systems. Recent merger announcements in the wireless and wired communications industry also create stronger competitors for PCS networks.

The PCS licenses are valuable resources. The auction ending on July 29, 1994 for narrowband PCS (primarily used for paging) and interactive video data services (IVDS) licenses drew bids totaling \$833 million, which was significantly greater than anyone expected.² Prior to the narrowband auctions, the broadband PCS licenses were expected to receive bids totaling over \$10 billion.³ Although current expectations are not well known, the \$10 billion amount is likely to be an under-estimate.

²The New York Times, July 30, 1994.

³Budget of the United States Government, Analytical Perspectives, Fiscal Year 1995 (February 1994), p. 220.

Given the FCC's auction design, an efficient allocation of resources is almost surely obtained when there are many independent bidders participating in these auctions. The FCC qualified 29 applicants in the narrowband PCS auctions, with the auction drawing bids from 24 of these applicants. This number appears sufficient to ensure a competitive market result. The winning bidders and the amounts paid are summarized in Table 1.

Table 1**Narrowband PCS Auction Winners****Two-Way High-Capacity Service**

Paging Network, Inc. 2 licenses	\$80,000,000 each
KDM Messaging 2 licenses	\$80,000,000 each
Nationwide Wireless Network Corp.	\$80,000,000

Two-Way Lower-Capacity Service

BellSouth Wireless	\$47,505,673
Nationwide Wireless Network	\$47,500,000
Airtouch Communications	\$47,001,001

One-Way Service

Page Mart II, Inc.	\$38,000,000
Paging Network, Inc.	\$37,000,000

Source: *The New York Times*, July 30, 1994.

Two significant points can be made about the list of narrowband PCS winners. First, all but one are large telecommunications companies with ready access to capital.

Paging Network, based in Plano, Texas, is the nation's largest paging company. KDM messaging is mainly owned by McCaw Cellular Communications, the nation's largest cellular phone company. Nationwide Wireless Network is a joint venture between Mobile Telecommunications, a large paging concern and a pioneer in PCS technology, and Microsoft Corporation and its multi-billionaire founders, William H. Gates and Paul Allen. BellSouth Wireless is a subsidiary of BellSouth Corporation, the largest of the regional holding companies. Airtouch Communications is a spin-off from Pacific Telesis and is the nation's third largest cellular phone company. Page Mart II, Inc. of Dallas is the only exception. Although with revenues of \$60 million, it is not technically a small business, it is a relatively small business when compared to the other winners.

The second point is that smaller firms and designated entities—small businesses, rural telephone companies, minority-owned businesses, and women-owned businesses—were overwhelmed by the rapid escalation of bids. Bids for two-way high-capacity service reached \$30 million per license, for example, at the close of bidding on the first day. Even with the bid discounts offered by the FCC, small businesses and other designated entities had little chance to effectively compete for these licenses.

The cost of licenses is only part of the expense faced by firms entering the PCS market. The FCC coverage requirements for PCS networks require a fairly rapid build-out schedule. One-third coverage of a licensed area within five years, escalating to 90 percent coverage after 10 years. Because PCS systems have limited range, greater capital investment is required to cover a target market. Estimates vary, but construction costs are expected to range between \$250,000 and \$300,000 per cell site in metropolitan areas.⁴ A complete network for the 300-square-mile New York City area is expected to cost \$3.6 billion, including switches, cell sites, base stations, and fiber optic

⁴Standard and Poors Industry Surveys, Telecommunications, July 29, 1993, p. T2-3.

tie-lines to wired services. With limited access to capital, small businesses and other designated entities face a monumental challenge as they try to build a complete network within the timetable set by the FCC.

In addition, to induce existing cellular customers to switch to PCS, it is likely that providers will offer price incentives. Any PCS providers that are not well capitalized will have a higher probability of experiencing financial distress during the first few years of operation. The asset restrictions placed on many designated entities will only increase the likelihood of financial distress in these companies.

Economic Opportunity Goals

The FCC adopted a variety of measures designed to comply with Congress's mandate that designated entities are given the opportunity to participate in the provision of spectrum-based services. The most important measure taken is the designation of two blocks of spectrum—Block C (30 MHz) and Block F (10 MHz)—exclusively for bidding by relatively small companies. These are called "entrepreneurs' blocks" and collectively contain 986 PCS licenses for 493 regions of the United States.⁵ Except as noted below, eligibility rules for the entrepreneurs' blocks are defined as follows:⁶

To bid in the entrepreneurs' blocks, the applicant, including attributable investors and affiliates, must cumulatively have less than \$125 million in gross revenues and less than \$500 million in total assets. No individual attributable investor or affiliate may have \$100 million or more in personal net worth.

⁵These regions are referred to as Basic Trading Areas (BTAs) and were adapted from the BTAs defined by Rand-McNally, 1992 *Commercial Atlas and Marketing Guide*, 123rd Edition.

⁶*Fifth Report and Order*, Federal Communications Commission, FCC 94-178, June 29, 1994, p. 51.

Although these eligibility rules may appear to include a large part of the designated entity population that Congress intended to help, they are detrimental in at least four respects:

- (1) Any minority-owned or women-owned business, or rural telephone company that exceeds the revenue and/or the asset limits is excluded from bidding on the entrepreneurial blocks.
- (2) The revenue limit of \$125 million makes it difficult for designated entities to raise the capital required to build PCS networks in many urban markets.
- (3) Most PCS networks will benefit from scale economies that are realized only if bidders acquire licenses in contiguous regions, which will require significant capital. By the entrepreneurs' blocks to those companies with revenues less than \$125 million and assets less than \$500 million, the FCC is limiting bidder's ability to realize the natural scale economies in PCS networks.
- (4) These restrictions make no allowance for the financial structure of an efficiently operating telecommunications company.

Congress mandated that the FCC include small businesses, rural telephone companies, and businesses owned by members of minority groups and women in the development of the spectrum. By setting revenue and asset restrictions on participation by minority-owned, women-owned, and rural telephone companies, the FCC is deviating from the mandate given by Congress. In other words, these restrictions favor

small businesses as a designated entity over rural telephone companies, and businesses owned by minorities and women. Although the FCC is empowered to use various preferential procedures, including tax certificates and preferential bidding practices, to ensure fair participation for all of the above mentioned groups, it is beyond the scope specified by Congress for the FCC to prefer one group over another. Congress wanted to include all designated entities in its mandate.

Effectively, the FCC has penalized any minority-owned or women-owned businesses, and rural telephone companies that have expertise in telecommunications and have grown in size to exceed the financial limits set for the entrepreneurs' blocks. This penalty works against the FCC's intent to increase the participation of designated entities in the telecommunications industry. Because designated entities that operate larger companies have experience with the problems created by growth, they may manage new growth more successfully. Any designated entity that wins a PCS license will experience asset growth as it builds its network and sales growth when customers sign on. Past experience helps a company avoid the pitfalls that new growth can create. Thus, a minority-owned, women-owned, or rural telephone company, with relatively larger assets and revenues, is more likely to survive competition from established cellular companies and other very large PCS companies.

In addition, the revenue and asset caps are likely to limit minority participation in markets that have a significant minority presence. According to the U. S. Bureau of Census, an average of 23 percent of the companies operating in the top 25 metropolitan statistical areas (MSA) are black or Hispanic owned.⁷ This fraction drops to an average of 13 percent in the 75th to 100th largest MSAs. Because minority participation is higher in the larger markets, these are the markets in which many minority companies may be

⁷U.S. Department of Commerce, Bureau of the Census, 1987 Economic Censuses, December 1993.

expected to seek PCS licenses, and the markets in which the larger minority companies are found. The greater capital needs of constructing networks in these markets requires that these firms have access to more resources. The revenue and asset caps placed on bidders in the entrepreneurs' blocks, however, exclude larger minority companies from bidding on these blocks, which works against the mandate of Congress.

On the second point, larger companies generally have a more stable revenue stream which affords them more direct access to capital. Table 2 presents two regression equations using data for local exchange carriers. The Top 30 regression equation shows the relationship between capital and operating revenues for the 30 largest local exchange carriers in 1993.⁸ These firms are ranked by the number of access lines. The Bottom 30 regression shows this relationship for the 30 carriers ranked 120th to 150th in size. These are small companies with average operating revenues less than \$15 million per year. What these regressions show is that there is a much stronger statistical relationship between capital and operating revenues for large firms than for relatively small firms. For the Top 30, the R-squared is .97, whereas for the Bottom 30 it is only .26. In other words, operating revenues can accurately forecast a large carrier's capital stock, but cannot do as well for smaller carriers.

One possible interpretation of the results in Table 2 is that there are other factors that determine the size of the capital stock for smaller carriers. Age of the carrier, variability of cash flows, and local regulatory environment are a few possible factors. Because the relationship between capital and operating revenues is *less certain* for smaller carriers, the FCC stands to gain if it relaxes the revenue restrictions placed on bidders in the entrepreneurs' blocks. Companies with relatively greater revenues have a

⁸Capital is defined as the sum of common stock, paid-in capital, treasury stock, preferred stock, and long term debt.

stronger statistical link between revenue and capital. Thus, these firms are more certain to have access to the capital necessary to build and operate a PCS network.

Table 2

Relationship Between Capital and Operating Revenues
for Local Exchange Carriers, 1993

Top 30

$$\text{Capital} = -296.9 + 1.17 \text{ Operating Revenue}$$

(170.2) (0.04)

$$\text{R-Squared} = 0.97$$

Bottom 30

$$\text{Capital} = -1.44 + 1.27 \text{ Operating Revenue}$$

(5.88) (0.41)

$$\text{R-Squared} = 0.26$$

Standard errors are shown in parentheses.

On the third point, the demand for phone services does not stop at the border between two regions if the regions are urban and linked by transportation arteries. The populations in these regions mix and transact with each other. The southeast Florida region is one example. Telephone communications and commercial trade in this heavily populated urban area links the economies of Dade, Broward, and Palm Beach counties. In the PCS auctions, however, Palm Beach county is a region apart from Dade and Broward counties. A bidder for PCS services in Dade and Broward counties is expected to bid for Palm Beach county, too, in order to gain scale economies in distribution and marketing of these services. There are many other regions of the United States that are interdependent in this manner. Obviously, the FCC realizes this because it states that

"licenses with strong value interdependencies should be auctioned simultaneously," and has formally endorsed the simultaneous auction mechanism.⁹

Interdependencies create larger capital requirements, so access to capital will be of primary importance to any company entering the PCS market. The FCC states that "the primary impediment to participation by designated entities is lack of access to capital."¹⁰ Winning bidders will undoubtedly realize that their survival and penetration of the market depends on rapid construction of a multi-region network. The asset and revenue requirements that limit access to the entrepreneurs' blocks create a significant disadvantage in some PCS markets, such as Chicago, Los Angeles, New York City, and other large urban areas. The capital requirements necessary to construct and operate a large PCS network imply that any successful bidder must be in a position to attract large amounts of capital quickly. Given the FCC's experience with the narrowband PCS auctions and the unexpectedly large sums bid, the \$125 million revenue and \$500 million asset restrictions appear to jeopardize the future of designated entities that win licenses in highly interdependent market areas.

A numerical example will help illustrate this point. Table 3 shows the present value of PCS licenses in three contiguous markets, labeled A, B, and C. The market values are shown for the case in which a single company operates a PCS network across all three markets—value combined—and the case in which ownership of at least one market is held by another PCS company—value separated. These values set an upper limit on what a company will pay for a license in each market. A company that acquires licenses to combine all three markets, for example, will offer no more than \$275 million during the bidding process.¹¹ Investing more than this amount is simply not

⁹*Fifth Report and Order*, Federal Communications Commission, FCC 94-178, June 29, 1994, p. 11.

¹⁰*Fifth Report and Order*, Federal Communications Commission, FCC 94-178, June 29, 1994, p. 6.

¹¹One criticism of this example is that it sets relatively high license values and is thus not realistic. Smaller values may be used if the example is extended to cover more than three markets. Contiguous

profitable. Similarly, a company that acquires a license for only market B will bid up to \$100 million.

Table 3

Market Values for Three Contiguous
PCS Network licenses
(millions)

Market	Value Combined	Value Separated
A	\$95	\$80
B	120	100
C	60	50
Totals	\$275	\$230

For both the value-combined and value-separated cases, the total value for the three markets requires access to substantial capital. With the revenue and asset caps that the FCC has imposed on entry to the entrepreneurs' blocks, these bidders will be capital constrained compared to Blocks A and B. Capital constraints will limit the total amount bid by these companies. Although a company can bid whatever it wants during the auction, the FCC will impose penalties on any firms that default, so unrealistic bidding is not likely. As a result, bidders will not be able to combine separate markets in areas that have relatively high values and strong interdependencies. Relaxing the revenue constraint imposed on the entrepreneurs' blocks will help alleviate this problem. A larger revenue cap will allow some additional companies and some efficient joint ventures with designated entities to bid effectively to combine separate markets.

markets in the Northeast could be used to construct such an example. These markets are highly interdependent and there are a relatively large number of them to be auctioned. Alternatively, the example can be developed to include construction costs as well as license costs, which makes the values shown appear to be too low for some PCS markets.

Let's illustrate what will happen when capital-constrained bidders try to combine markets A, B, and C in Table 3. Suppose that companies in the entrepreneurs' blocks have access to \$200 million in capital for the acquisition of PCS licenses. Companies will bid on all three markets as the auction proceeds. The total values of bids will reach \$200 million. At this point, however, there will be a surplus of \$30 million remaining in the value-separated column. The second-highest (combined) bidder will realize that it is better off owning a license in a separated market than losing the bidding for all three licenses. This bidder will then drop out of one of the markets, using these funds to increase its bid in the other two markets. Now, the previous high bidder cannot win all three licenses, thus it drops out of the bidding for one market and begins to bid on the other two markets. The capital constraint of \$200 million makes it nearly impossible for these three licenses to be combined under the ownership of a single bidder. Scale economies and the resulting efficiencies cannot be achieved.

The simultaneous, multiple-round auctions adopted by the FCC are designed so that companies can create efficient market combinations such as those shown in Table 3. The revenue and asset restrictions placed on the entrepreneurs' blocks work directly against this worthwhile goal. Even a small change in these restrictions will help reduce this problem. Allowing a firm or joint venture that has access to slightly more than \$230 million in license-acquisition capital permits markets A, B, and C to be combined under one ownership structure. This firm could bid slightly more than the value given in each market when that market is owned separately. These bids will total slightly more than \$230 million, thus deterring any other bidder from seeking ownership of a single market.

The fourth and most important point is that the FCC fails to provide sufficient justification for the revenue and asset restrictions adopted. The FCC states that "the \$125

million gross revenue figure corresponds roughly to the Commission's definition of a Tier 2, or medium-sized, local exchange carrier.¹² While there may be a rough similarity in revenues with Tier 2 carriers, a more complete justification would rely on the financial characteristics of local exchange carriers.

Table 4 shows average operating revenues, average total assets, and the average ratio of operating revenues to assets for the top 150 local exchange carriers. These carriers are grouped into sets of 25 companies, which are ranked by total access lines. The top 25 carriers serve the markets with the 25 largest number of access lines. The rank 26-50 grouping serves the next largest access line market, and so on.

These data show that average operating revenues and average assets decrease significantly below the rank 26-50 grouping. In the bottom group of 25 companies, for example, operating revenues average \$13 million and total assets average \$36 million. These carriers are small businesses. What is important in this table is the ratio of operating revenues to total assets. For all local carriers, operating revenue as a percent of total assets is an average of 45.0 percent. When these 150 companies are grouped by size, the ratio increases for the larger carriers and decreases the smaller carriers. The overall range, however, is not large.

The FCC restriction on revenues and assets sets a limit of \$125 million and \$500 million, respectively, to be eligible to bid in the entrepreneurs' blocks. At the limit, this restriction implies a revenue to asset ratio of 25 percent. Table 4 shows that this figure is inconsistent with the financial characteristics of both big and small companies. If the \$500 million asset restriction is kept, then these data suggest that a meaningful revenue restriction is \$225 million (45 percent of \$500 million). Even if the focus is only on small

¹²*Fifth Report and Order, Federal Communications Commission, FCC 94-178, June 29, 1994, p. 55.*

companies (rank 126-150), the revenue limit should be increased to \$192 million (38.3 percent of \$500 million).

Table 4

TOP 150 Local Exchange Carriers, 1993

Size Group	Average Operating Revenues (millions)	Average Total Assets (millions)	Operating Rev./ Assets (percentage)
Top 25	\$3,313 (3,214)	\$7,061 (6,976)	47.8 (6.5)
rank 26-50	284 (161)	637 (378)	49.5 (10.5)
rank 51-75	83 (25)	171 (54)	49.5 (7.4)
rank 76-100	37 (16)	90 (27)	43.7 (9.0)
rank 101-125	22 (7)	57 (23)	41.2 (10.7)
rank 126-150	13 (4)	36 (12)	38.3 (7.8)
All Carriers	\$625 (1,769)	\$1,341 (3,806)	45.0 (9.6)

Source: *Statistics of the Local Exchange Carriers*, United States Telephone Association, 1994. Figures in parentheses are sample standard deviations.

Increasing the revenue limit will allow firms that are currently financially efficient to bid in the entrepreneurs' blocks. By keeping the current operating revenue to asset ratio at 25 percent in the limit, the FCC is including companies that have relatively greater assets, but a relatively low yield on their assets. Such firms are unlikely to operate PCB networks as efficiently as other companies that have a more optimal financial structure.

Obviously, the results in Table 4 can be used to suggest that the \$500 million asset limit be lowered. Although logically accurate, the need for changing the FCC limits is motivated by a need for access to more, not less, capital. Firms with more assets are likely to have more collateral, which can be used to gain access to capital. Thus, lowering the \$500 asset limit will not move the FCC closer to an efficient allocation of licenses in the entrepreneurs' blocks.